Toxicon 87 (2014) 76–80

Contents lists available at ScienceDirect

Toxicon

journal homepage: www.elsevier.com/locate/toxicon

Clinical report

A phoenix of clinical toxinology: White-tailed spider (*Lampona* spp.) bites. A case report and review of medical significance

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ARTICLE INFO

Article history:
Received 11 March 2014
Received in revised form 9 May 2014
Accepted 29 May 2014
Available online 9 June 2014

Keywords:
White-tailed spider
Bite
Delayed dermatitis
Misconception
Lampona

ABSTRACT

The Australian white-tailed spiders ("WTS"; Lamponidae: notably *Lampona cylindrata* & *Lampona murina*) have a continuing reputation on Internet sites as a cause of skin ulceration, labelled "necrotic arachnidism", despite an increasing number of peer-reviewed publications debunking this reputation, with >135 confirmed cases now reported without any evidence of necrosis. We present here a case of confirmed WTS bite in a 42-year old male, followed for over a month, with photos of bite site signs and no development of skin ulceration/necrosis. The patient was initially alarmed by information on the Internet suggesting local necrosis would result from the bite. We discuss the evolution of knowledge about bites by the WTS, and the persistence of misconceptions about their factually mild medical significance.

1. Introduction

The white tailed spider ("WTS"; Lamponidae: *Lampona cylindrata* and congeners, notably *Lampona murina*; Platnick, 2000) is a native of Australia and reputedly common in urban environments, where it is frequently encountered in houses. It is a hunting spider actively searching and feeding principally on other spiders (particularly black house spiders; Desidae: *Badumna insignis*). In the course of hunting within houses it may easily come in contact with humans, and occasionally a person is bitten by a *Lampona* spp. This most commonly happens when a spider is inadvertently trapped in clothing.

Since the late 1970's there has been a persistent and factually unsupported perceived association between WTS and necrotic arachnidism. Although effectively rebutted in the literature (White et al., 1989; Isbister and Gray, 2003), this misperception has persisted first through popular misconception, and later through occasional articles in the popular media. This issue remains a topic with confusing information on several Internet sites. Despite this large amount of publicity in professional and popular media, cases of typical WTS bite, with photos showing the local lesion, have not been published (excluding those with claimed "necrotic arachnidism", arguably far from the common or confirmed outcome).

Here we report a case of witnessed WTS bite in which the spider was caught and identified, and progress of the bite effects documented. We also discuss the impact that the persistent misconception of the medical effects of WTS bites has on patients and medical professionals.

2. Case report

The patient, a 42 year old male contractor, was donning a pair of athletic compression shorts when he felt two "sharp stings" on the medial aspect of his right thigh. He initially thought that the sensation was due to an irritating

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http://dx.doi.org/10.1016/j.toxicon.2014.05.021
0041-0101/

nylon thread, and slid his finger underneath the edge of the fabric. To his surprise, when he placed his finger at the site of the discomfort, a spider was "flicked out" and landed on the floor. He captured the spider (Fig. 1) in a plastic container, and examined the painful site. He reported an "uncomfortable" sensation at the bite site, but was unable to clearly discern "fang marks". However, within 10 min of the bite, although there was no discernible lesion, a sharp "stinging" sensation was noted accompanied by mild pruritis. One hour after the bite, these sensations slightly intensified, but no significant lesion, erythema or other visible effects developed. The pruritis increased slightly during the next few hours; however, there was no significant pain, only persistence of the mild, but sharp "stinging" sensation.

The victim searched for information about the spider and spider bite on the Internet. He tentatively identified it as a "white tail" by comparing the captured specimen with images on a website, and became concerned because of the stated association between cases of "necrosis" and bites by white tail spiders. The victim sought medical advice and presented at a local private hospital with an urgent care centre. The examining physician provided reassurance and sent the patient home with advice to return if any significant change in the wound was noted. One of the authors (SAW) was consulted by the victim, and examined the spider and bite site on the upper right medial aspect of the thigh within 48 h of the incident, noting a very slight erythema that was not photographed due to it being nearly indistinguishable from normal skin; there were no visible fang marks. There was no ulceration, discharge or sign of cutaneous ischemia. The spider was identified by the authors as a male *L. cylindrata* (Fig. 1). Six days after the bite, the victim reported a recurrence of mild pruritis and stinging sensation at the site of the bite. Examination of the site by one of us (SAW) revealed an approximately 2.0 cm diameter erythematous maculopapular rash present in the previously identified wound site (Fig. 2). The rash expanded to approximately 3.0 cm diameter on the seventh day and there was a reported mild increase in the pruritis (Fig. 3). Again, there was no ulceration, discharge, or sign of cutaneous ischemia. Following the advice of his family doctor, the patient applied tea tree oil to the site, and reported a moderate decrease of the pruritis. The rash faded over the next week, and within three weeks, the bite site was observed as a mildly hypopigmented patch with isolated, patchy fading erythema, approximately 2.0 cm diameter (Fig. 4). There were no sequelae and the wound healed without any further incident.

The patient had no declared allergies, and no significant medical history, but had a surgical history consisting of bilateral rotator cuff repair, left biceps tendon repair, and a recent arthroscopy of the left knee. He was not taking any medications.

3. Discussion

The case reported here featured mild local discomfort and pruritis without a visible lesion. A mildly pruritic dermatitis and discomfort similar to the initial effects of the bite developed almost 1 week later, and dissipated over a 3 week period. Although the precise pathophysiological basis for this dermatitis in our case is currently unclear, it may be due to Type IV hypersensitivity, as has been suggested for recurrent cutaneous eruptions associated with some cnidarian stings (Pierard et al., 1990; Veraldi and Carrera, 2000; Loredana Asztalos et al., 2014). The histopathology of some local cnidarian envenomings with recurrent

Fig. 1. *Lampona cylindrata*; photo of the spider caught in association with the bite. The specimen is approximately 11.5 mm (total length from tip of the prosoma to the end of the opisthosoma). Total adult average lengths are approximately 4.0–12.5 mm (males), and 4.5–17.5 mm (females); some specimens reach significantly larger sizes (authors' personal observations). *Lampona cylindrata* is found in southern Australia, while *L. murina* is restricted to eastern Australia; these two taxa have limited sympatry in southeast Australia, and have commonly been confused. Definitive identification of any spider based on a photograph alone, or casual observation is generally inadvisable. Platnick (2000) included in his revision of the Lamponidae, a detailed taxonomic key for the *cylindrata* group (containing *L. cylindrata*, *L. murina*, *L. papua*).

Fig. 2. Appearance of the bite site six days after the bite of a male *L. cylindrata*. Note the maculopapular dermatitis that is centered at the bite site. The patient reported only mild pruritis, but complained of a "stinging" sensation. The bite site contained no visible lesion or fang marks during the five days following the bite. There was no discharge, ulceration or cutaneous ischemia.